

# High-resolution climate projections for Vietnam

Enhancing Vietnam's capacity to develop regional scale climate projections, enabling more robust national and provincial climate change action plans to underpin adaptation planning and to prioritise investment.



## The issue

Vietnam is considered to be one of the countries most vulnerable to the impacts of climate change (UNEP, 2009). Most of the population and infrastructure are located close to its long, narrow coastline and two large deltas. Here, impacts of climate change such as saline intrusion, sea-level rises and flooding are already occurring, and an increasing frequency of extreme events is projected to exacerbate current hazards. Planning and prioritising its climate change response is an important challenge for the Government of Vietnam. Improved regional and local projections help to reduce the uncertainty contained in many longer term climate projections and support provincial governments in prioritising planning choices and making more effective investment decisions.

## Key lessons for development

- The Vietnamese Government is concerned about the consequences of climate change and is committing considerable efforts to better understand these impacts.
- The projected decrease in rainfall during the summer monsoon season may have significant hydrological implications, which could impact areas such as water-resource planning and agriculture.
- Fewer but possibly more intense tropical cyclones (typhoons) are projected.
- The Climate Futures Tool (<http://climatetool.vnclimate.vn/>) allows the end user to view the spread of possible projections for the seven sub-regions of Vietnam. In addition, the Tool guides the end user in choosing the most appropriate projections to assess the impact of climate change for different applications.

## What did the project deliver?

The project created **climate projections and scenarios for Vietnam**, which are being used by decision makers to identify and target the most vulnerable areas for action.

The **Climate Futures Tool and website** have been designed to support effective use of the climate projections and scenarios. The Tool is being used by local policy makers and communities to understand climate projections at their location and to anticipate changes in extreme events, which can cause significant damage to infrastructure and loss of life. The Climate Futures Tool is already being used for development planning in areas such as Can Tho, Ho Chi Minh City, Da Nang, Thanh Hoa, and Ha Tinh.

**Skills were strengthened and capacity enhanced** through the strong participatory engagement process, targeted capability development and the provision of new information to help decision-makers make the most effective use of new knowledge and tools.

The project team



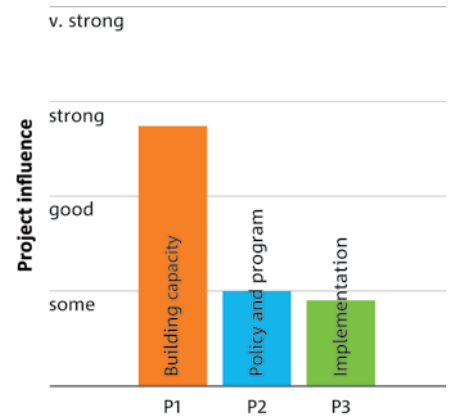
## Project evaluation and impact

In April 2014, IMHEN, HUS and CSIRO undertook an evaluation to assess the project's influence on participants' adaptive capacity. The project consisted of three linked phases to identify where impact had been achieved. Phase 1 focused on building planning capacity and tools. This enabled Phase 2, policy and program development, which was followed by Phase 3, implementation, adoption and scaling out. Phase 1 encompassed the project's activities, while Phases 2 and 3 were out of the project team's direct control. Parts of Phase 2 and all of Phase 3, impact on beneficiaries, extend beyond the life of the individual projects and are dependent on key stakeholder support over time.

The results showed that the participatory approach and training have significantly built the capacity of the IMHEN and HUS research teams.

Overall, the project improved the trust and cooperation between individuals and institutions, predominately IMHEN, HUS and CSIRO. Individuals appreciated the training and the opportunity to exchange information, particularly around researching climate extremes and scenarios. These skills and the project's participatory planning process influenced management plans and cross-sectoral partnerships in Phase 2, resulting in unexpected positive impacts such as NGOs using project results to inform their efforts with vulnerable communities in Phase 3.

The project vision was driven by the Vietnamese Government, with the project's outputs expected to contribute to the National Climate Change Scenarios in 2015. In addition, several international organisations have requested the project's results for their information and reference, including GIZ, Winrock and the Red Cross.



Summary of evaluation results for the three phases of the project impact pathway

The results generated by this research are only the first step in developing a greater understanding of future climate in Vietnam. Further research is required to fully understand the drivers behind projected changes, especially for rainfall, and implications for other climate features such as typhoons and droughts.



## Project partners

This two year collaborative project was led by CSIRO and the Institute of Meteorology, Hydrology and Environment (IMHEN), the Hanoi University of Science (HUS), and the Australian Department of Foreign Affairs and Trade (DFAT).



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